

ABSTRACT

A non-volatile memory cell having a local silicon nitride layer to control dispersion of hot electrons is disclosed. The dual-bit non-volatile memory cell has a stack of layers including silicon on the surface of a substrate. The stack of layers has at least one first oxide silicon layer and a silicon nitride layer overlying the first oxide silicon layer. An opening is formed in the stack of layers and a gate oxide layer is deposited on the surface of the substrate within the opening. A control gate is formed on the gate oxide layer followed by a second oxide silicon layer overlying the surfaces of the control gate and the stack of layers. A second polysilicon layer is formed overlying the gate oxide layer. Dual split-gates are then formed on the second polysilicon layer.